



(57)Abstract:

PROBLEM TO BE SOLVED: To provide a communication terminal device, a communication terminal control method, a medium with communication terminal control program recorded thereon, a method and a device for data distribution, and a medium with data delivery control program recorded thereon which enable faithful reflection of the intention of a contents generator on a print result.

SOLUTION: Circumstances for the carrying out of print based on print object data are set in a printer by using print condition data which is accepted as a part of distribution data at the time of acceptance of selection of a print object. Consequently, setting processing which a user should perform for print is reduced, and the intention of the contents generator

can be faithfully reflected on the print result.

Translation of relevant paragraphs (0068)–(0078)

[0068] According to the present embodiment, the header which shows the content of the data concerned is given to the data which the above-mentioned separation section 13 separates by the multiplexing section 27 of the above-mentioned data distribution section 23, and the above-mentioned separation section driver 62 saves data to a suitable directory while discriminating the content of data by the header concerned. Fig. 8 is the schematic diagram showing an example of the BML file distributed. In this drawing, a BML file header is a header which shows that the data field after it is a BML file. By discriminating existence of this BML file header, the separation section driver 62 saves the above-mentioned BML file distributed into the above-mentioned BML directory.

[0069] In the BML file shown in this drawing, the tag for making a predetermined screen display perform on a display 32 is

described, and the object for printing specified with the tag is displayed, and, when a user chooses the object for printing concerned, it can constitute so that processing which starts a printer driver may be performed. Fig. 8 shows the tag for indicating the photograph 1 in the thumbnail, and for performing processing which starts a printer driver at the time of selection of the thumbnail of this photograph 1. In this drawing, "" tag is to display the image specified within the tag concerned on the screen of a display 32. In this example, by designation of relative path such as "... the directory for /printing / thum_photograph 1", the thumbnail image of the photograph 1 saved to the directory for printing shown in above-mentioned Fig. 7 is displayed. Of course, in this embodiment, it is also possible to perform a screen display in various modes, such as to carry out the account of the average of the alphabetic characters, such as "a photograph 1" corresponding to an image.

[0070] Moreover, "<A ... The /A>" tag shows the link, and it is used in order to carry out a screen display based on the BML file of the appointed link place or to start the specified module, when the image or alphabetic character surrounded with the tag concerned is chosen. According to this embodiment, the description "PRN=" in a tag "<A ... /A>" is to execute the printer driver starting module with which the above-mentioned main program 61 is equipped and which is not illustrated, when the linked above-mentioned thumbnail image is specified. Processing of step S150 which will be later mentioned is performed, when this printer driver starting module is performed. The preservation location of the data for printing is specified by the relative path after this "PRN=", and the data for printing the "photograph 1" of the relative path concerned are received and passed to the printer driver started by processing of the above-mentioned printer driver starting module at step S410 mentioned later.

[0071] Since it corresponded also when two or more printers are connected and the printer is specified as printing conditions in this embodiment, it considered as the configuration which starts the above-mentioned printer starting module, but of course, the specific printer driver saved to the driver directory by the relative path henceforth "the above "PRN="" can be specified, and it can also constitute so that the specific printer driver concerned may be started. In this embodiment, it is also possible to describe printing conditions in the BML file concerned, and, in this case, the above-mentioned link is shown as "<A ... /A>" and inside of a tag, " < recommendation printing conditions ... the tag >" is described. Thus, "< recommendation printing conditions ... >" tag is described. And, when the recommendation printing condition activity flag mentioned later is turned on, printing is performed using the printing conditions concerned. Although the image displayed on a display 32 is considered as the thumbnail display in the example shown in Fig. 8, of course in the above-mentioned "", it is also possible to describe the pass of the live data of photograph instead of the thumbnail image, and to display photograph 1 grade within the tag.

[0072] Fig. 9 is the schematic diagram showing an example of the printing data format distributed. In this format, the data for printing in which the content of the printing condition data in which printing conditions are shown in one print data, and the very thing for printing is shown, and its thumbnail data distribute collectively. In this printing data format, it is designated, as the conditions, size of "A4", quality of special use, print sheet direction of "lengthwise direction", shearing of printing object as " 1 page per A4 form", printing side of "one side", printer type of "printer A". Two or more models are specified as a model of printer, and if either of two or more models is connected to the set top box 11, it can also be made the configuration that printing can be performed. Moreover, the

data for printing are data of various modes, such as a bit map and a text code, and the data format independent of a printer is assumed, and thumbnail data are data for displaying the outline of the data for printing concerned with the small number of pixels, and consist of formats, such as jpeg.

[0073] It is the header which shows that the printing condition header has recorded printing condition data on the data field after it here, and the header for printing is a header which shows that thumbnail data and the data for printing are recorded on the data field after it. Therefore, even if they are collectively distributed by printing condition data, the data for printing, and thumbnail data in one data for printing, the separation section driver 62 distinguishes these headers, and saves proper data to a proper directory. It saves in the example shown in Fig. 9, considering the data which exist after a printing condition header and before the header for printing as one file, and making a file name into photograph 1 grade in a printing condition directory. It saves thumbnail data and the data for printing being considered as one file, respectively, and the data which exist after the header for printing also making the file name of the data for printing photograph 1 grade in the directory for printing, and making the file name of thumbnail data thum_photograph 1 grade.

[0074] Thus, while also being able to describe printing conditions in the printing data format shown in Fig. 9, also being able to describe to the recommendation printing condition tag in the BML file shown in above-mentioned Fig. 8 and being able to adopt any technique, it is also possible to describe printing conditions by the technique of further others. Moreover, the header which shows that the data after a header other than an above-mentioned header are driver program data and application program data also exists, and data are saved by distinction of this header to a suitable directory. Moreover, the information about the version and corresponding hardware is also included in driver program data or application program data.

[0075] The printer driver 63 shown in Fig. 6 is a driver for controlling a printer 30, and the driver prepared for every model of printer 30 is incorporated. This printer driver 63 is suitably started, when the above-mentioned printer driver starting module is started by link selection in the above-mentioned BML file, the data for printing are read from the above HDD 17, and a printer 30 generates the print data which can perform printing. Moreover, it can perform printing, this printer driver 63 setting up various printing conditions, and it can also perform printing according to the conditions shown in the above-mentioned printing condition data while it can perform printing according to the conditions of the arbitration which was made to display a predetermined property on a display 32, and the user set up. It is prescribed by the recommendation printing condition activity flag whether the printing condition data concerned are used, and when the said recommendation printing condition activity flag is ON, it prints using printing condition data. Thus, it can say that the printer driver 63 has set up the environment where printing is performed under control of CPU15 according to the above-mentioned printing condition data, and this printer driver 63 and CPU15 constitute the above-mentioned printing configuration means. Moreover, this recommendation printing condition activity flag is turned on by the default, and it is possible on the above-mentioned property ON or to set up off if needed for a user.

[0076] Although this recommendation printing condition activity flag can be set up by the printer driver 63 for every model, even when the content of setting out is saved at the above HDD 17, this flag was set as ON by a certain printer driver 63 and other printer drivers 63 are started, recommendation printing conditions are used, and if off, recommendation printing conditions will not be used. When connecting two or more printers, the printer preferentially used in printing activation can be specified, and this priority is set up by the printer driver 63 corresponding to each printer kind. Of course, the setting-out

technique of a priority is various, it may memorize a priority to a printer 30, may perform two-way communication in the case of printing, and may acquire a priority.

[0077] Fig. 10 shows an example of the property screen of the printer displayed on a display 32. This drawing is a certain property for printer A, and a different property for every model of printer to be used is started. In this property screen, the check box is prepared to each setting-out item, and a user can put a check into each check box by actuation of remote control 33. It is possible to set up ON/OFF of a recommendation printing condition activity flag in the check box matched with "the recommendation printing condition activity." Under this check box, the item and check box of each printing conditions are indicated, and it is possible to set up desired conditions to the same setting-out item as the printing condition data shown in above-mentioned Fig. 9 by the check in a check box. Furthermore, the operating priority of the above-mentioned printer 30 can also be set up. Of course, this property screen is an example, otherwise, can constitute the conditions about various setting-out items possible [setting out], and can update them to the thing of the at-any-time newest by version up of the above-mentioned driver.

[0078] 1394 drivers 64 are drivers which manage a I / O data, as the communication link based on IEEE1394 specification by the above-mentioned IEEE1394I/F19c is performed, they make the print data generated by the printer driver 63 output to a printer, and in order to perform setting out which suited printing conditions, they make data transmit and receive between a printer 30 and a set top box 11. Of course, since this interface is based on IEEE1394 specification, it can connect two or more printers and can connect various equipments besides a printer. When external instruments, such as a computer, are connected, by control of CPU15, it becomes usable by computer etc. about these data, and IEEE1394I/F19c constitutes the above-mentioned means of

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communications from this semantics, and CPU15 also constitutes the above-mentioned data output means from transmitting the above-mentioned data for printing, and printing condition data to a computer etc.